

Managing Knowledge Creating Relationships

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Abstract

The internet is enabling a new economy based on the networking of human knowledge. While the benefits of connecting people to people, people to information and people to data within an organization are becoming more recognized and appreciated, much less is known about managing knowledge creation and dissemination across corporate boundaries. This paper addresses the challenges associated with selecting the best collaborative strategy and managing relationships which span organizational cultures and boundaries.

Key Words: Knowledge Management, e-partnering, Intellectual Assets, organizational Behaviour

1. Introduction

Fiber optic and wireless digital networks have revolutionized the way we think about data, information and knowledge. Today, schools and businesses, students and consumers browse through electronic libraries offering everything from soap operas and movies to scientific texts and medical files. According to Gartner (2002) interactive multimedia programming on demand has spawned a knowledge-based industry that, only a few years ago lay beyond the comprehension of most people.

Today, microcomputers and advanced electronic communication systems support an entirely new economy based on the networking of human knowledge. In this knowledge based economy, companies are creating wealth by applying knowledge in entirely new and innovative ways. Their success is determined as much on their ability to acquire, generate, distribute and apply knowledge as it is on their hard assets such as trucks, assembly lines and inventory. This was summed up in the quote by the former chief executive of Hewlett - Packard who said, "If HP knew what HP knows, we would be three times as profitable," Like H.P. major players such as Xerox, Johnson and Johnson, Oracle, IBM, ABB, Proctor and Gamble are looking for ways to capitalize on the competitive advantages to be gained by aligning their intellectual capital (Sveiby and Roland 2002) with their strategic mission. This balance between, what Stacey (1993) calls "ordinary management" or the day to day business of achieving objectives and "extraordinary management" the business of achieving objectives in

highly complex situations and times of continual change, has been a difficult one to achieve. For example, Boeing built its revolutionary 777 airliner, based on a philosophy of “no secrets” and “no rivalry” both internally and between its customers and contractors. While at the same time laying off thousands of workers from its other product lines. This kind of ambiguity is no longer the exception but the rule and rather than trying to consolidate stable equilibrium, the organisation should aim to position itself in a region of bounded instability.

It is becoming increasingly apparent to business leaders that they have gone as far as they can to differentiate themselves through product or price alone. Cost competition is no longer the competitive weapon it was and operational effectiveness no longer the key driver. The challenge of bringing all aspects of their operation into a single coherent process has been replaced by the drive to improve the efficiency of their whole organization. As costs reach an all time low, companies are turning to new ways to achieve differentiation. Responsiveness became the new challenge. Responsiveness to customers, supply chains and market opportunities. As responsiveness becomes a commodity the new business challenge is velocity, the first correct response received wins the business. Unfortunately, this evolution through cost, responsiveness and ultimately velocity is not happening in a linear and sequential fashion. As each succeeding dimension comes into play, it is not being replaced by the others but is becoming for a time, the pre-eminent one. Once all three dimensions come fully into play the leading competitors use them to increasingly similar effect neutralizing each other. As a result, the basis of competition is distinctive combinations of all three dimensions that best match the evolving needs of different parts of the marketplace. However, each combination brings with it high levels of complexity and change. The more complexity, the more change, the more change the more complexity (Figure 1).

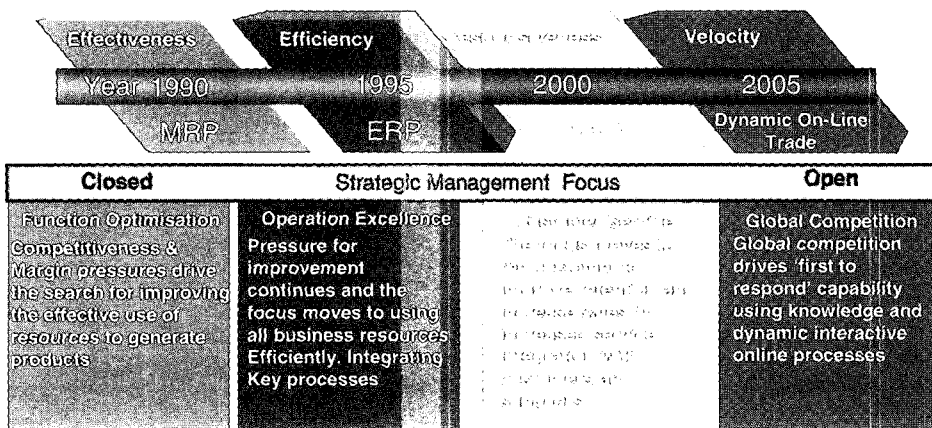


Figure 1. Strategic Management Focus

Ironically, it is the very success of our Knowledge Era Economy (Savage 1996) with its easy access to information that has given the impression of a speeding up of many of the business processes which at one time seemed more stable and predictable. Indeed, one does not have to look far to see that much of the “dot.com bubble” of the late 90’s was due in part to a California style “gold rush” to be the first to produce “the killer app.” While many “early adopters” fell by the wayside, that period of development has continued to build, albeit with less hype than before. The “Strategic Inflection Point” (Grove 1996) has clearly passed and we are living in an age where intra and inter knowledge sharing and diffusion are essential if businesses are to make sense of this increasingly complex world. Recent studies paint a rather mixed picture of successes in collaborative strategies with some efforts being more successful than others. Reasons given usually come down to a combination of careful design and an enabling I.T. infrastructure and high levels of trust and commitment (Sveiby and Simons 2002; Savage 1996; Gadman 1996; Flores 1993). While much has been written on the merits and challenges of setting up and managing cross organisational communities such as Programme Offices (Gadman 1993) and Communities of Practice (Seeley Brown and Solomon Grey 1995), much less is known about why such relationships break down once they extend beyond company boundaries. One area which appears to have successfully dealt with this challenge is that of free and open – source (F/OSS) software development. Given the growing interest in the organisational implications of complexity science (Snowdon 2004) it would appear that a deeper understanding of its application in free and open – source communities will have significant implications for the management of intra and extra collaborative relationships (Hippel and von Krogh 2003).

The uniqueness of free and open – source software development communities is that their members freely reveal the code they write, releasing it under licenses that allow others to use it, to modify it as they wish and distribute their modifications to others. This is the very antithesis of most proprietary methods adopted by corporations such as Microsoft and Intel. Project management methods used in these projects have proven capable of converting the volunteer efforts of users and programmers who come and go as they please into high quality software products. The efforts of these volunteers are coordinated with the aid of only very simple but powerful collaborative tools. While it appears that trust plays a significant role in the quality and success of these relationships an equally important outcome is the degree to which knowledge is generated by highly effective information exchange. Both trust and knowledge creation and dissemination are in turn impacted by the amount of risk involved in the shared endeavour. When the risk is high, trust, based upon levels of intimacy and credibility, must be high if the free flow of information is to be maintained and

new knowledge generated. The fact that this has been largely overlooked by strategic management theory (Mintzberg 1994) means that the organisation as we have come to know it over the past century is an inaccurate concept and its associated management practices and theories require rethinking in the light of these new phenomena (Rosenhead 1998). This paper reports the experiences of companies which appear to thrive on complexity and turbulence. For some, information technology has defined their competitive strategy, as in the case of Intel and Dell for others it has enabled their competitive strategy, as in the case of Benetton, 3M and P&G. In all cases, their success was based on their ability to creatively partner knowledge and talent both inside and across their four walls and to seize and profit from the untapped reservoir of opportunities existing in their marketplace. A second critical aspect of their success was the capability of their managers to shake off their preoccupation with fixing and controlling their environment. They have designed and run their organizations in ways that combine standard practices of excellence with more flexible and self organizing ones fueled by the innovative ideas brought about by connecting people to people, people to information and people to knowledge across the borders of business units and countries. Their experience, which is relevant to any company that depends on smart people and the flow of ideas, provides a lens through which we can learn.

A recent study of companies most actively involved in strategic partnering (Gadman and Cooper 2003) found that a company's choice of partner is far from arbitrary and depends on their competitive strategy, an analysis of the risks and benefits associated with taking on any new venture and their knowledge creating capacity – their ability to successfully exploit information to make better decisions that are highly knowledge intensive and entail significant business risk. Emphasizing the wrong strategy can have a profound impact on the successful outcomes of a knowledge creating collaboration and hence, business results.

Some companies have pursued *adapting* strategies where their focus on internal knowledge creation through networking means that formal reporting structures and detailed work processes have a diminished role in the way important work is accomplished. Instead, informal networks of employees are increasingly at the forefront, and the general health and “connectivity” of these groups can have a significant impact on strategy execution and organizational effectiveness. For example, Dell operates in the highly commoditized personal computer market where there is little to differentiate one PC from another. Consequently, they are constantly looking out for ways to secure their future.

Their strategy is not to innovate or spend on R&D. Instead, they apply existing knowledge to build on the ideas of their competitors and then enter the market later with cheaper prices enabled by an extremely efficient in-house manufacturing process. Their strategy is to

adapt within a well defined strategic domain. Their intention is to deploy validated knowledge to another task. Consequently, Dell looks for markets where standards have emerged. It then innovates with its processes - the area where it does hold a large number of patents - and, perhaps most importantly, simply gives customers what they want, not what it thinks they should have.

On the other hand Oracle has adopted an *Innovating* strategy forming new technology partnerships with the aim of building support for its new software applications. Realizing it didn't have the knowledge in - house, or the time to develop it, Oracle created strategic partnerships with a number of smaller companies to leverage their unique knowledge of file and email management systems to create their new products. Their aim is to gain entry into the highly lucrative collaboration software market, to take a slice of the billion-dollar market which is presently dominated by IBM and Microsoft.

Adaptive strategies focus on cultivating knowledge and expertise to improve business performance and achieve stronger business operating results. Such results include making better decisions, propagating functional excellence, reducing cycle times and reducing variability. While *innovating* strategies seek similar performance results, their priority is in harnessing learning & innovation through natural and spontaneous experimentation. This means ensuring knowledge connectivity, recognizing patterns in environmental data, creating new ideas that don't necessarily conform to corporate culture but provide options to pursue new challenges.

2. Managing for Adaptation and Innovation

The examples so far, illustrate a pattern of strategic partnering that links business strategy with knowledge intensity, environmental velocity and complexity and risk tolerance. These companies have developed elaborate ways to deliver value to their customers and to increase their ability to make faster and better decisions using people to people, people to information and people to data partnerships. In each case, the choice of partner is based upon their ability to enter into these relationships in mutually beneficial ways. They invest in three types of communities: employee, customer and business. They are interested in leveraging intellectual capital and dealing with the very real problems of coordinating the work and the relationships among complex distributed networks of people and organizations.

Figure 2 illustrates how these companies base their partnering strategy on two primary drivers. The risks and benefits associated with taking on a new business venture and the power of its intellectual capital to create the knowledge required for success. In situations

where environmental complexity is high and intellectual assets are considered strong, a partnering strategy will have a predominantly internal focus (Maturana and Varela 1987). Its management practices and structures, performance measurements and investment in information technology will be designed to support knowledge creation among internal employee communities and where necessary, allow the capability to support extended virtual workplaces between enterprises. Conversely, in situations where the business environment is complex and unpredictable and the company's knowledge assets are not considered strong, its partnering strategy seeks to complement its intellectual assets with help from outside.

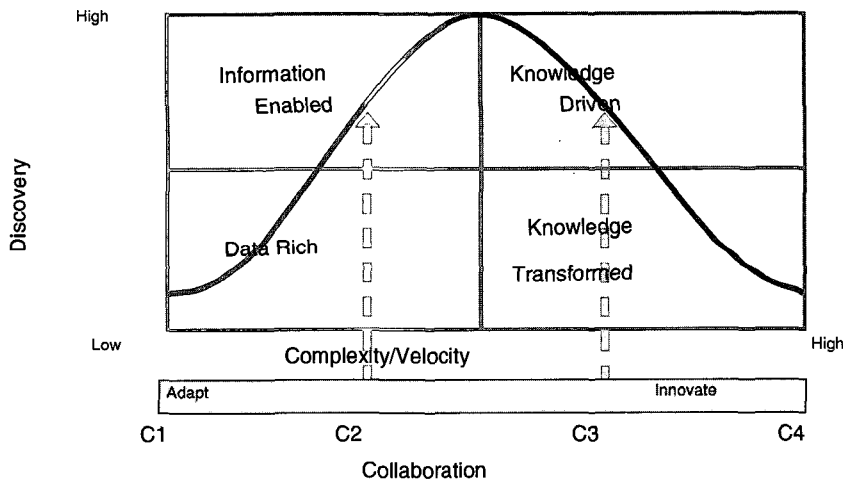


Figure 2. Discovering With Others

C1 – In low complexity environments where knowledge creation is not considered mission critical, partnering of any kind tends not to be regarded as a priority. The objectives of strategic management in these situations is to maintain tight control by managing the input – output relationship between the company and its environment through ensuring clear product – market positioning, resource allocation, planning, organizing, human resource management, and control. Management practices and organizational design principles are biased in favor of task specialization and individual rather than collaborative endeavors. Consequently, self-organization among workers is discouraged. Detailed plans rather than guidelines tend to be the norm. Knowledge connectivity is low. Relationships are based on power and control and hierarchy. Interaction essential to the generation of new knowledge and problem solving are captured, categorized and stored for retrieval. Knowledge networking is neither valued nor encouraged and access to networks via phone, internet, face to face and videoconferencing

are discouraged. There is a significant downside to this strategy, as many in the banking world are beginning to realize. Their historical dominance in none cash transactions from debit cards to electronic transfers-is under assault from nimble competitors. Companies such as Tesco in the United Kingdom and Wal-Mart in the United States are ready to serve customers demanding choice, convenience, lower costs, and better service. Failing to review pricing and partnering strategies, product ranges, infrastructure, and customer needs in the face of this challenge could have serious implications.

C2 – In situations where there is low complexity and high need for knowledge creation which cannot be delivered by existing intellectual assets, partnership strategies move beyond the four walls of the firm. Information technology and the internet enable a community gathering place for social and commercial interaction. Networks provide strategic and operational benefits by enabling members to collaborate effectively. Boundaries are permeable. The number and density of connections to the environment is increased to speed information flow and adaptation. Information is transparent and diversity of opinions and experience to speed innovation is promoted. The challenge is to recombine to reinvent and people are encouraged to borrow ideas and practices liberally, making every product upgradeable, breeding ideas and processes early and often, and viewing interchangeable modules for people and products essential for mass customization. These experiments are aimed at continuously upgrading the performance of services and products, understanding the requirements of customers, knowing where to target their products, how to market and sell their products and developing new channels to market.

C3 – In high complexity environments where existing knowledge assets are in place and highly capable of creating new levels of knowledge required, partnering tends to be predominantly internally focused and designed to enable self-organization among workers. The objectives of strategic management are to balance control with experimentation. Consequently, guidelines rather than detailed plans tend to be articulated. Knowledge connectivity is also an essential aspect of relationship building because it enables interaction essential to the generation of new knowledge and problem solving. In such a culture, group memory is really the holy grail of knowledge management efforts. However, the effort to capture and categorize is often more hassle than workers and managers are willing to put up with. If the organization's or team's culture is suitable to a conversational working style, the best I.T. solutions offer a combination synchronous collaboration tools such as videoconferencing, instant messaging and screen sharing with asynchronous environments that allow teams to work across geographic and chronological boundaries. In this way, they can quickly produce both a highly effective online workspace and an instant archive that becomes searchable group

memory. New team members coming on board can easily get up to speed and ask questions that haven't already been answered. Managers can tune in and get a solid pulse on the state of the project. Customers can be an integral part of the project team, viewing the process and giving feedback along the way. Trusting and stronger working relationships are established for future contracts. And everything is embedded in a clear context (the flow of the conversation), which makes for better, more integrated work and learning.

C4 – In situations where environmental complexity is high, but requirements for knowledge creation have been established. This is the domain of the expert and these partnerships are characterized by highly knowledgeable people delivering products/services which are the result of extensive research and have become the de facto solution. For example, a biomedical startup company focusing on the product development might incorporate some key expertise in its founding team, this team might also include graduate students who had developed and refined some of the earlier key processing technology. This may also foster other relationships with the original laboratory, and with those who had tacit understanding of how the idea really works, by adding many of those people to its scientific advisory board this company would become adept at drawing complex ideas and external scientists into its R&D group without upsetting its existing ideas and culture. These partnerships are highly skilled at measuring, valuing and managing their intellectual assets. They acquire and retain highly skilled employees and they are knowledge driven in that they are able to embed individual-based knowledge in the company and make it accessible and useful to the entire organization.

3. Putting People First

Medtronic, Inc. is a leading medical technology company famous for achieving outstanding business results through innovative learning culture. The company is worth \$63 billion and its \$5 billion in sales worldwide comes from a variety of cardiovascular devices, neurological stimulators, drug-delivery systems, and spinal implants. Through creatively managing its internal and external relationships, Medtronic has reduced development cycle times for new medical devices from four years to 18 months. And 70 percent of revenues come from products launched in the previous two years. In the companies we studied managerial leadership in partnering relationships requires attention to the following:

- 1) Continuously assessing states of the organization
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- 2) Stimulating partnering relationships
- 3) Balancing adaptive and innovative strategies
- 4) Capturing and disseminating partnering best practice
- 5) Deciding when and how to terminate a partnership

Over the past two decades, management innovations have pushed companies toward the ideal of the “boundary less” organization. As a result of these changes, formal reporting structures and detailed work processes have a much diminished role in the way important work is accomplished. Instead, informal networks of employees are increasingly at the forefront, and the general health and “connectivity” of these groups can have a significant impact on strategy execution and organizational effectiveness. Many corporate leaders intuitively understand this, but few spend any real time assessing or supporting informal networks. And because they do not receive adequate resources or executive attention, these groups are often fragmented, and their efforts are often disrupted by management practices or organizational design principles that are biased in favor of task specialization and individual rather than collaborative endeavors. In the companies we studied, the quality of leadership and the quality of interpersonal interactions is extremely high and inextricably linked. Their focus is on competitive excellence through aligning their company’s processes, systems and structures with its mission and core values.

4. The Five Dimensions of Partnering Leadership

There are five dimensions of partnering leadership which loosely equate to Stacey’s (1993) “Extraordinary management” and eleven “Ordinary Management” practices (Figure 3) that are essential to building and maintaining successful partnerships (Gadman 1996). The important point to make here is that both qualities must reside within the “Partnering Leader.” S/he must be comfortable managing the ambiguity between both processes because both are needed in the complex environment of the knowledge economy. The processes must co – exist even though there is an intrinsic tension between both. If the boundaries limiting the scope of extraordinary management’s informal networks are drawn too tight, it will wither; too loose and the organisation with descent into anarchy, failing to deliver on its core short term tasks. The one key task of extraordinary management is to manage these boundaries. The culture must be such that its heterogeneous nature supports innovative idea generation mid – career recruiting or through job rotation strategies. It should take steps to promote ac-

tive internal politics that is both open and broadly democratic in style. Senior managers should not espouse a unique vision or long – range plan but should promote the conditions for the emergence of an evolving agenda of strategic issues and aspirations. It should intervene only selectively and then at sensitive points to do so effectively it needs to have an understanding of the qualitative patterns of behavior which such interventions could produce without wishing to control it to a preconceived path of believing that it could. Intel’s Andrew Groves (1996) termed this his strategy of “letting freedom reign” and knowing when to “reign in freedom.” This was also the preferred style of Digital’s Ken Olsen (Schein 2003) in the days when Digital was the world’s first and largest producer of mini computers.

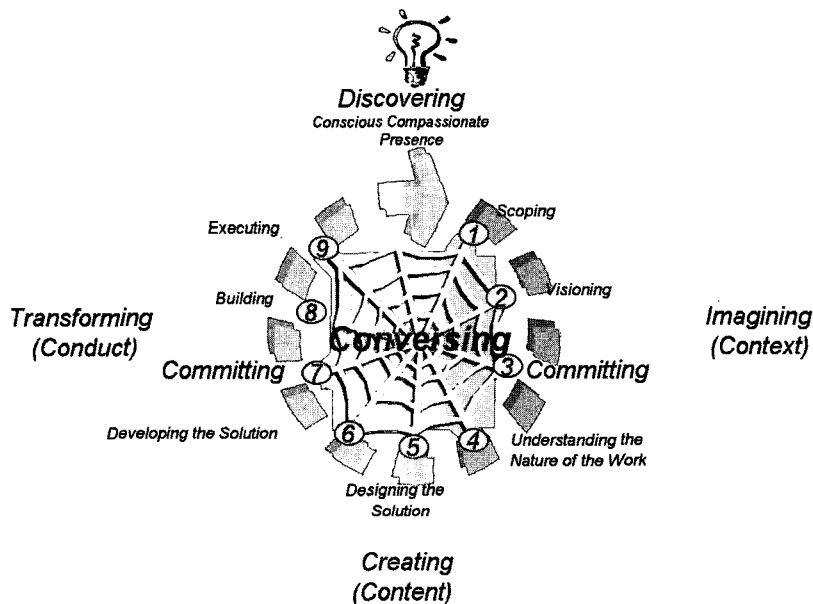


Figure 3. The Partnering Cycle

People simply don’t sign up to challenges that invoke strong emotions of fear and anxiety. Skillful leaders engage their people in dialogue at every stage of the model in ways that help them relate to their emotions and manage meaning. The discovering, scoping, visioning and committing phases challenge managers to develop in their people, shared aspirations and capabilities (Savage 1996) concerning the future they intend to invent. This means that, from the very beginning, they encourage conversations designed to surface old issues and grievances and to gain closure on them. They realize that leaving contentious issues un-

resolved will lead to problems at very stage in the process. Managers ensure that there is no uncertainty about the vision they and their participants are working towards. The future they have declared for themselves, is the future they all passionately wish to bring about.

Consequently, they engage their hearts and minds in ways that produce winning attitudes and actions. There are four factors that influence knowledge transfer between two or more collaborative partners:

- 1) Openness – The higher the degree of openness, the more effective is the knowledge transfer within the collaboration
- 2) Channels of Interaction – Increasing access to information and people with shared interests and ideas and creating new opportunities for communicating and collaborating e.g. e mail, phone, e Conference, web casting.
- 3) Trust – The higher the perceived trust the higher the degree of openness
- 4) Prior experience – The higher the degree of prior experience, the more effective the knowledge transfer.

5. Putting Your Strategy to Work?

The business benefits to be gained from adopting the most appropriate partnering strategy are significant. Whether it's a desire to tap expertise globally to solve problems locally, a wish to respond faster to changing customer demands or a desire to develop and launch new products/services faster than its competition, a company's partnering strategy and its competitive strategy must be inextricably linked. Whether it's a case of doing the same things better, doing better things or doing entirely new things a company's choice of one of the four partnering strategies will be influenced by the nature of its business environment and its confidence in the knowledge of its people to successfully take on and overcome the challenge.

In cases where environmental disruption is considered high and knowledge levels well suited to maintaining existing product/service offerings, a company will tend to favor a predominantly adaptive strategy over an innovative one. Consequently, any efforts to innovate will be more controlled and iterative in nature with partnerships designed to foster knowledge creation, capture and dissemination inside and across the organization. On the other hand, in situations where environmental disruption is tolerable and knowledge levels high, a company might favor a more innovative approach to delivering its portfolio and take on a

more experimental approach. In such cases, partnerships are more externally focused and designed to challenge existing knowledge with radically new ideas.

Strategies aimed at adapting and innovating must be balanced with the right blend of partnering. If companies intend to stimulate knowledge development through external partnerships they have to consider the state of the organization when they decide how much experimentation is enough. To manage external partnerships managers must continually assess when experimentation is moving away from the guiding values and core mission of the company. Such loose/tight control is essential if knowledge generation is to continue to feed the strategic aspirations of the firm (von Krogh and Roos 1996).

Like Intel's Andrew Grove, managers should also be open to making use of new perspectives which might ultimately change the core mission of the company. They should carefully observe the impact of new ideas on existing culture and gauge the degree of stress people in the organization are willing and able to accept. Ultimately, the difference between going it alone and going with others is a personal choice but we hope that the information presented here will make that choice more informed.

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